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Emergency pericardiocentesis: a word of caution! Accidental transhepatic intracardiac placement of a pericardial catheter

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Following an unsuccessful ultrasound-guided pericardial puncture of a 42-year old patient due to malignant pericardial effusion (Fig. 1A), blood was suddenly delivered, suggesting cardiac perforation. After a sternotomy, no perforation site was found, but the catheter was palpable within the inferior vena cava (IVC). Instead, it was identified penetrating the liver and had obviously found its way into the hepatic veins, the IVC ending up in the right atrium (Fig. 1B–H, Supplementary Movie 1). This case highlights that a pericardial puncture may carry a high risk of major complications and these procedures should be performed by experienced clinicians with the standby of a cardiothoracic unit.

Conflict of interest: none declared.

SUPPLEMENTARY MATERIAL

Supplementary material (Video 1) is available at *EJCTS* online.

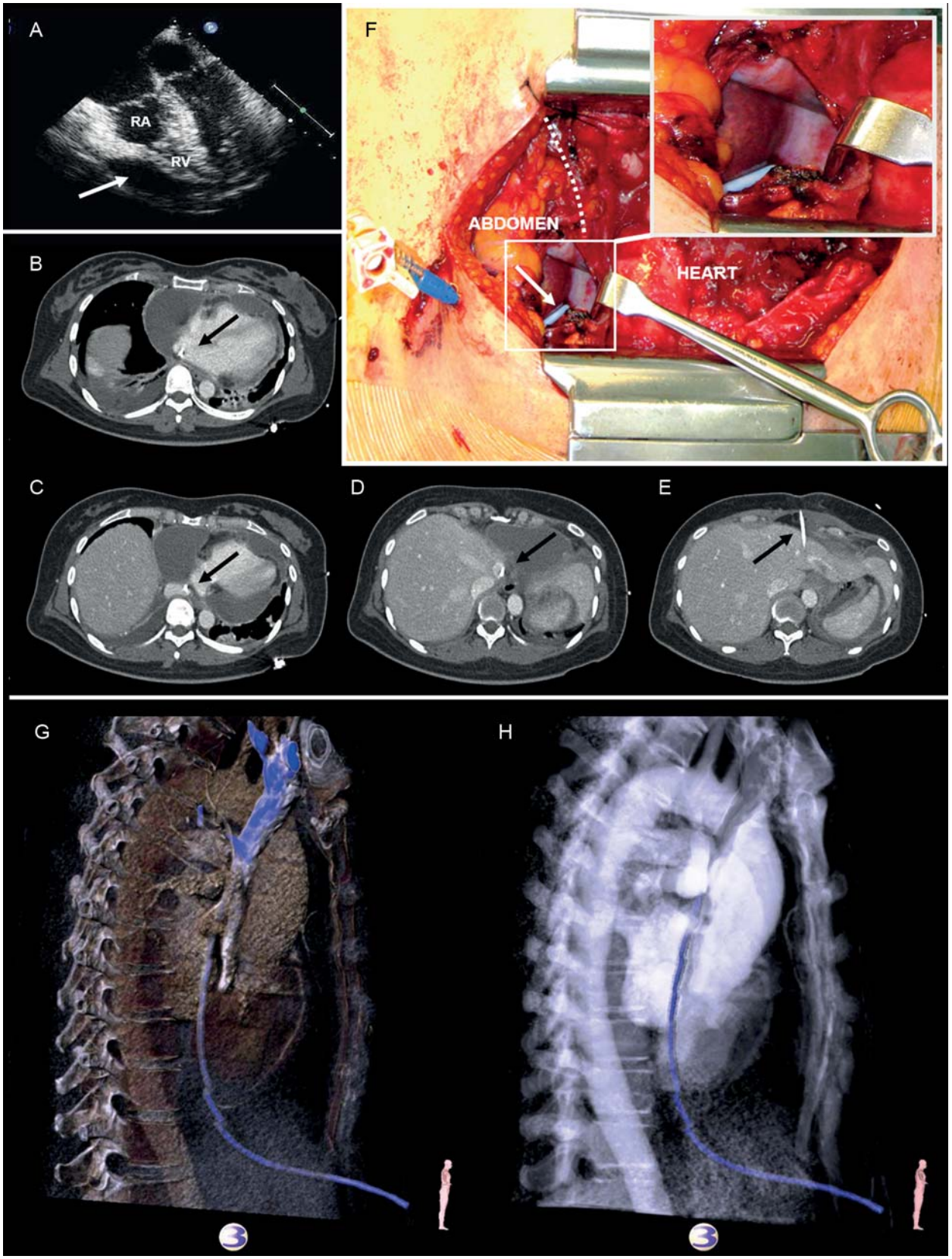

Figure 1: (**A**) Transoesophageal echocardiography showing the significant pericardial effusion compressing the right ventricle (white arrow); RA: right atrium, RV: right ventricle. (**B**–**E**) Computed tomography (CT) angiography showing the catheter in the right atrium (B, black arrow), the IVC (C, black arrow), the hepatic veins (D, black arrow) and the abdominal entrance site of the catheter (E, black arrow). (**F**) After incision of the peritoneum, the course of the catheter could be identified penetrating the liver in its diaphragmatic surface (white arrow and inset). (**G** and **H**) Three-dimensional CT angiography reconstruction showing the catheter taking a course through the liver, hepatic veins and IVC into the right atrium.